| Linear Sequences Mark Scheme |  |  |
| :---: | :---: | :---: |
| 1(a) | 27 | [1] |
|  | 31 | [1] |
| 1(b) | Difference between terms is 4 . $\text { OR; } n^{\text {th }} \text { term }=4 n+1$ <br> OR you add 4 to get to the next term | [1] - accept any mathematically correct answer |
| 2(a) | 4 | [1] - for correct first term |
|  | 4, 6, 8, 10, 12 | [1] - for sequence increasing by 2 |
| 2(b) | 202 | [1] |
| 2(c) | The numbers in the sequence are all even. | [1] |
| 3(a) | 25 | [1] |
| 3(b) | $4 n$ | [1] - for correct multiplier |
|  | $n^{\text {th }}$ term $=4 n+1$ | [1] - for correct linear increment |
| 3(c) | $4(47)+1=189$ | [1] |
| 4(a) | 33 | [1] |
| 4(b) | $6 n$ | [1] - for correct multiplier |
|  | $n^{\text {th }}$ term $=6 n-3$ | [1] for correct linear increment |
| 4(c) | $6(9)-3=51$ | [1] |
| 5(a) | 2 | [1] - for correct first term |
|  | 6,10,14,18 | [1] - for sequence increasing by 4 |
| 5(b) | $4 n-2=82$ | [1] - for method |
|  | $4 n=84 \therefore n=21$ | [1] - correct answer |
| 5(c) | The sequence increment is 4,78 and 82 are in sequence, 80 cannot be. | [1] - accept any mathematically correct answer |
| 6(a) | 8 | [1] |
|  | 10 | [1] - implies understanding of sequence |
| 6(b) | $n^{\text {th }}$ term $=2 t+2$ | [1] - for finding the $n^{\text {th }}$ term |
|  | $2 t+2=115$ | [1] - for method |
|  | $2 t=113 \therefore t=56.5 \therefore 57$ tables | [1] - correct number of tables and chairs |
|  | Cost $=(57 \times 10)+(115 * 2)=570+230=£ 800.00$ | [1] - correct answer |

